

WHAT IS CLAIMED IS:

1. A particulate manganese dioxide having micropores and meso-macropores, said manganese dioxide having simultaneously a BET surface area between about 20 and 31  $\text{m}^2/\text{g}$ , a micropore area between about 8 and 13  $\text{m}^2/\text{g}$  and an average meso-macro pore radius greater than 32 Angstrom.
2. The manganese dioxide of claim 1 wherein said manganese dioxide is in particulate form and said micropores and meso-macro pores are intraparticle pores and the total porosity of said manganese dioxide, based on pores within the manganese dioxide, is between 0.035  $\text{cm}^3/\text{g}$  and 0.050  $\text{cm}^3/\text{g}$ .
3. The manganese dioxide of claim 2 wherein the manganese particles have an average diameter between about 1 and 100 micron.
4. The manganese dioxide of claim 1 wherein said manganese dioxide is an electrolytic manganese dioxide.
5. The manganese dioxide of claim 2 wherein the micropores are intraparticle pores having a diameter less than or equal to 20 Angstrom and the meso-macropores are pores having a diameter greater than 20 Angstrom.
6. A particulate electrolytic manganese dioxide product having micropores and meso-macropores, said manganese dioxide having simultaneously a BET surface area between about 20 and 28  $\text{m}^2/\text{g}$  and a micropore area between 8 and 13  $\text{m}^2/\text{g}$ , and an average meso-macropore radius greater than about 32 Angstrom, with the total porosity, based on pores within the manganese dioxide, being between about 0.035  $\text{cm}^3/\text{g}$  and 0.040  $\text{cm}^3/\text{g}$ .

7. The manganese dioxide of claim 6. wherein said manganese dioxide is in particulate form and said micropores and meso-macro pores are intraparticle pores.

8. The electrolytic manganese dioxide of claim 7 wherein the manganese dioxide product is in particulate form having an average particle diameter between about 1 and 100 micron.

9. The manganese dioxide of claim 7 wherein the micropores are intraparticle pores having a diameter less than or equal to 20 Angstrom and the meso-macropores are pores having a diameter greater than 20 Angstrom.

10. A particulate electrolytic manganese dioxide product having micropores and meso-macropores, said manganese dioxide having simultaneously a BET surface area between about 20 and 30  $\text{m}^2/\text{g}$  and a micropore area between 8 and 13  $\text{m}^2/\text{g}$ , and an average meso-macropore radius greater than about 32 Angstrom, with the total porosity, based on pores within the manganese dioxide, being between about  $0.040 \text{ cm}^3/\text{g}$  and  $0.045 \text{ cm}^3/\text{g}$ .

11. The manganese dioxide of claim 10 wherein the manganese dioxide is in particulate form and said micropores and meso-macro pores are intraparticle pores.

12. The electrolytic manganese dioxide of claim 11 wherein the manganese dioxide is in particulate form having an average particle diameter between about 1 and 100 micron.

13. The manganese dioxide of claim 11 wherein the micropores are pores having a diameter less than or equal to 20

Angstrom and the meso-macropores are pores having a diameter greater than 20 Angstrom.

14. A particulate electrolytic manganese dioxide product having micropores and meso-macropores, said manganese dioxide having simultaneously a BET surface area between about 20 and 31  $\text{m}^2/\text{g}$  and a micropore area between 8 and 13  $\text{m}^2/\text{g}$ , and an average meso-macropore radius greater than about 32 Angstrom, with the total porosity, based on pores within the manganese dioxide, being between about 0.045  $\text{cm}^3/\text{g}$  and 0.050  $\text{cm}^3/\text{g}$ .

15. The manganese dioxide of claim 14 wherein the manganese dioxide is in particulate form and said micropores and meso-macro pores are intraparticle pores.

16. The electrolytic manganese dioxide of claim 15 wherein the manganese dioxide is in particulate form having an average particle diameter between about 1 and 100 micron.

17. The manganese dioxide of claim 15 wherein the micropores are pores having a diameter less than or equal to 20 Angstrom and the meso-macropores are pores having a diameter greater than 20 Angstrom.